

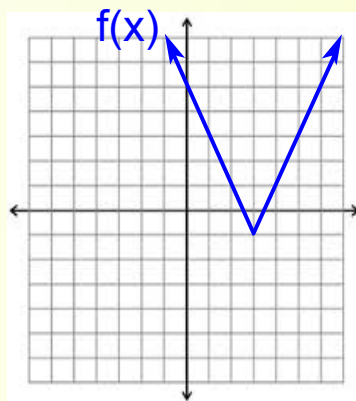
Alg. 2 Warm Up #1-3

Warm Up sheets by the door.

1. Solve:

$$x^2 + 5x - 14 > 0$$

2. Find an equation for $f(x)$



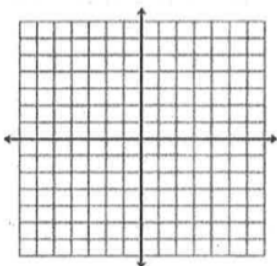
3. Graph: $y \leq f(x)$

Alg. 2B Ch 4 homework #1

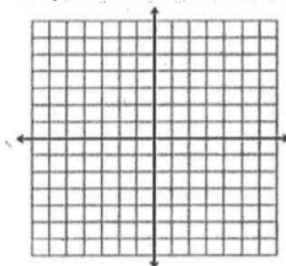
Name _____ Team _____ Per _____

1. Graph the inequality or system of inequalities. Shade the solution region.

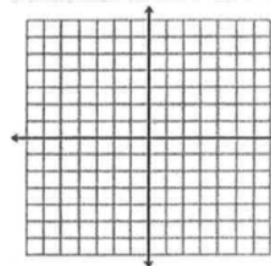
a. $y > -\frac{1}{2}x + 3$



b. $y \leq -(x - 4)^2 + 5$
 $y \geq (x - 2)^2 - 7$



c. $y \geq -(x + 3)^2 + 2$
 $2x - 3y > -6$

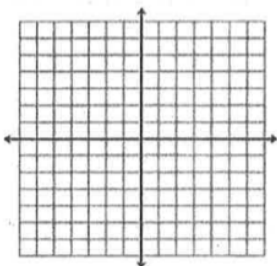


Alg. 2B Ch 4 homework #1

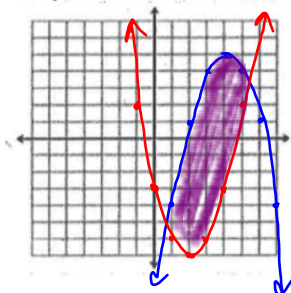
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1. Graph the inequality or system of inequalities. Shade the solution region.

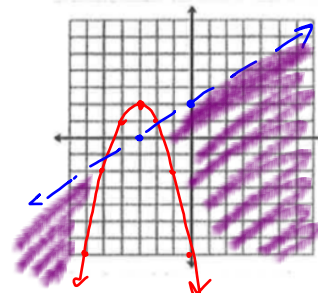
a. $y > -\frac{1}{2}x + 3$



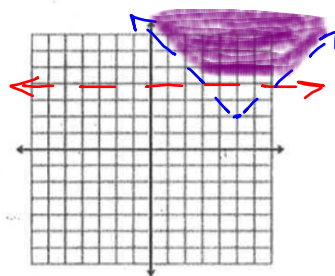
b. $y \leq -(x-4)^2 + 5$
 $y \geq (x-2)^2 - 7$



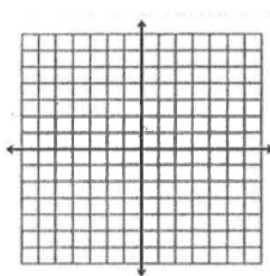
c. $y \geq -(x+3)^2 + 2$
 $2x - 3y > -6$



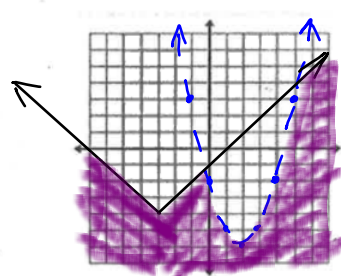
d. $y > |x-5| + 2$
 $y > 4$



e. $y > -|x+1| + 4$
 $y \geq \frac{1}{2}x - 2$



e. $y \leq |x+3| - 4$
 $y < (x-2)^2 - 6$



2. Simplify each expression.

a. $\frac{(x^3y)^{-2}}{8x^0y^{-6}}$

$$\frac{y^6}{8(x^3y)^2}$$

$$\frac{y^6}{8x^6y^2}$$

$$\frac{y^4}{8x^6}$$

b. $\frac{7x^{-4}y^5}{xy^4} \cdot \frac{(y^{-2})^{-3}}{(7x)^2}$

$$\frac{\cancel{7}y}{x^5} \cdot \frac{y^6}{\cancel{7}\cancel{4}x^2}$$

$$\frac{y^7}{7x^7}$$

c. $\frac{36a^{-2}b^3}{a^5b^{-2}} \div \frac{4a^7}{a^{-4}b^7}$

$$\frac{\cancel{9}\cancel{36}b^3 \cdot b^2}{a^5 \cdot a^2} \cdot \frac{a^{-4}b^7}{\cancel{4}a^7}$$

$$\frac{9b^5}{a^7} \cdot \frac{b^7}{a^4 \cdot a^7}$$

$$\frac{9b^{12}}{a^{18}}$$

3. Find the critical numbers (boundary points) using the zero product property, then use a number line test to solve the inequality.

a. $2x^2 - x - 10 \leq 0$

b. $12x^2 - 48x > 0$

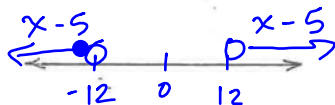
c. $4x^2 - 81 \geq 0$

$$12x(x-4) > 0$$

$$(2x+9)(2x-9) \geq 0$$

4. Use the meaning of absolute value to set up each problem on a number line, then write the compound inequality and solve.

a. $|x - 5| > 12$

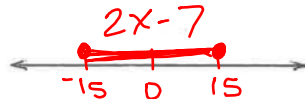


$$x-5 < -12 \text{ or } x-5 > 12$$

$$+5 \quad +5 \quad +5 \quad +5$$

$$x < -7 \text{ or } x > 17$$

b. $|2x - 7| \leq 15$



$$-15 \leq 2x - 7 \leq 15$$

$$+7 \quad +7 \quad +7$$

$$-8 \leq 2x \leq 22$$

$$-4 \leq x \leq 11$$

c. $|3x + 2| > 10$



5. At a college bookstore, Carla purchased a math textbook and a novel that cost a total of \$54. If the price of the math textbook is \$8 more than 3 times the price of the novel, what is the price of each book? Specifically identify the variables, write a system of equations then solve.

Let $m =$ *price in \$ of a math text.*

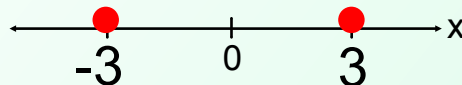
Let $n =$



Review Absolute Value:

Using the definition of absolute value as the distance from zero on the real number line:

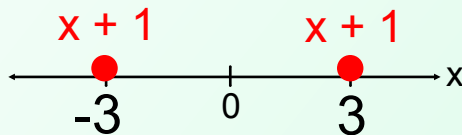
$|x| = 3$ means that the value of x is 3 units from zero on the number line



$$x = -3 \quad \text{or} \quad x = 3$$

**** Never +, -, x, or ÷, into or out of an absolute value symbol!!**

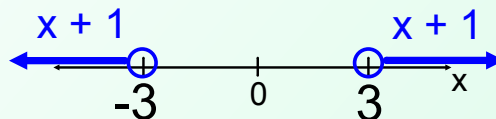
$|x + 1| = 3$ means that the value of $x + 1$ is 3 units from zero on the number line



$$x + 1 = -3 \quad \text{or} \quad x + 1 = 3$$

**** Never +, -, x, or ÷, into or out of an absolute value symbol!!**

$|x + 1| > 3$ means that the value of $x + 1$ is **more than** 3 units from zero on the number line

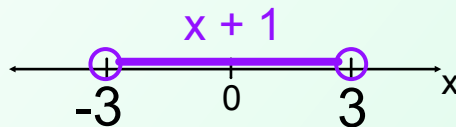


$$x + 1 < -3 \quad \text{or} \quad x + 1 > 3$$



**** Never +, -, x, or ÷, into or out of an absolute value symbol!!**

$|x + 1| < 3$ means that the value of $x + 1$ is **less than** 3 units from zero on the number line



$$-3 < x + 1 < 3$$

HW: Ch 4

Homework WS #2

Alg 2 CPM
Vol. I